AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A frequency converter, comprising:

a signal brancher that branches a locally oscillated signal into two signals;

a constant impedance element that passes the two signals; and

a mixer that respectively mixes an output from the ~~said~~ constant impedance element with a high frequency received signal and generates an intermediate frequency signal,

wherein the ~~said~~ constant impedance element has a generally constant impedance in a frequency band of the high frequency received signal, and

wherein the generally constant impedance element is 50 ohms.

2. (Original) The frequency converter according to claim 1, wherein the two signals are two signals that are different from each other in phase by 180 degrees, and have the same amplitudes.

3. (Canceled)

4. (Currently Amended) The frequency converter according to claim 1, wherein the ~~said~~ constant impedance element passes a signal with a frequency within the frequency band of the respective two signals more than a signal within the frequency band of the high frequency received signal.

5. (Currently Amended) The frequency converter according to claim 4, wherein the ~~said~~ constant impedance element is a low-pass filter whose cut-off frequency is an upper limit of the frequency band of the two signals.

6. (Currently Amended) The frequency converter according to claim 4, wherein the ~~said~~ constant impedance element is a band-pass filter whose passband is the frequency band of the two signals.

7. (Currently Amended) The frequency converter according to claim 4, wherein the ~~said~~ constant impedance element is a diplexer whose passband is the frequency band of the two signals, and which presents a termination characteristic in the frequency band of the high frequency received signal.

8. (Currently Amended) The frequency converter according to claim 1, wherein the ~~said~~ signal brancher is a balanced balun corresponding to the frequency band of the locally oscillated signal.

9. (Currently Amended) The frequency converter according to claim 1, wherein:

the ~~said~~ mixer comprises:

one diode;

a second ~~the other~~ diode which is connected at the anode to the cathode of the ~~said~~ one diode, and at the cathode to the anode of the ~~said~~ one diode;

a first terminal to which the cathode of the ~~said~~ one diode and the anode of ~~said~~ the second ~~other~~ diode are connected; and

a second terminal to which the cathode of ~~said~~ the second ~~other~~ diode and the anode of the ~~said~~ one diode are connected;

the ~~said~~ first terminal receives an output from the ~~said~~ constant impedance element;

the ~~said~~ second terminal receives the high frequency received signal; and

the ~~said~~ second terminal outputs the intermediate frequency signal.

10. (Currently Amended) The frequency converter according to claim 9, further comprising:

a high frequency input terminal which is connected to the ~~said~~ second terminal, and receives an input of the high frequency received signal;

an intermediate frequency band filter which is connected to the ~~said~~ second terminal, and passes a signal within the frequency band of the intermediate frequency signal; and

an intermediate frequency signal output terminal which is connected to the ~~said~~ intermediate frequency band filter.